ENVIRONMENTAL ASSESSMENT

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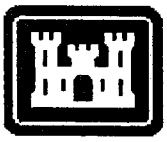
JULY 2002

MANATEE HARBOR

MANATEE COUNTY, FLORIDA

NAVIGATION PROJECT



US Army Corps of Engineers®

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

MANATEE COUNTY, FLORIDA
NAVIGATION PROJECT
MANATEE HARBOR
FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the Environmental Assessment (EA) for the proposed action. This Finding incorporates by reference all discussions and conclusions contained in the EA enclosed hereto. Based on information analyzed in the EA, reflecting pertinent information obtained from agencies having jurisdiction by law and/or special expertise, I conclude that the proposed action will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement. Reasons for this conclusion are in summary:

1. The proposed action includes construction of wideners at the junction of the Port Manatee access channel and the Tampa Bay channel and construction of a 900-foot diameter turning basin at the eastern end of the Manatee Harbor channel.

2. The proposed action is in full compliance with the Endangered Species Act, the Coastal Barrier Resources Act, and the Fish and Wildlife Coordination Act. The proposed action would not jeopardize the continued existence of any threatened or endangered species or adversely impact any designated "critical habitat". Measures to prevent or minimize impacts to manatees in accordance with the Terms and Conditions of the Biological Opinion from the U.S Fish and Wildlife Service will be implemented.

3. Measures to eliminate, reduce, or avoid potential adverse impacts to fish and wildlife resources will be implemented. All impacts associated with construction would either be insignificant or compensated for by project mitigation measures that will reduce impacts to less than significant levels.

4. The State of Florida issued a Conceptual Environmental Resource Permit dated August 29, 2000 to perform all seagrass mitigation activities required for dredging. An "Intent to Issue" an Environmental Resource Permit/Water Quality Certification was issued April 12, 2002. State water quality standards will be met.

5. The proposed project has been determined to be consistent with the Florida Coastal Zone Management Program.

6. No significant historic resources will be impacted.

7. Economic benefits will be accrued.

8. Measures to eliminate, reduce, or avoid potential impacts to environmental resources include the following: (1) A mitigation plan has been approved for impacts to seagrass, (2) The standard manatee protection measures would be followed for all water based activities, (3) The Jacksonville District's Migratory Bird Protection Policy would be followed if any migratory birds are encountered.

5 AUGUST 2002
Date

James G. May
Colonel, U.S. Army
District Engineer

ENVIRONMENTAL ASSESSMENT
MANATEE HARBOR
MANATEE COUNTY, FLORIDA
NAVIGATION PROJECT

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NAVIGATION STUDY

1 PROJECT PURPOSE AND NEED

1.1 PROJECT AUTHORITY.

The navigation project for Manatee Harbor, Florida, was authorized by the 1986 Water Resources Development Act (PL 99-662), dated 17 November 1986.

1.2 PROJECT LOCATION.

Manatee Harbor is located within the southern portion of the Tampa Bay Estuary in Manatee County, Florida, just south of the Hillsborough County line. Tampa Bay is situated midway along the west coast of Florida. Manatee Harbor is located between two designated Aquatic Preserves. Just to the north is Cockroach Bay Aquatic Preserve. To the south, is Terra Ceia Aquatic Preserve. The Port Manatee channel extends northeast from the terminal facilities and intersects the main Tampa Bay channel just east of the Sunshine Skyway Bridge. (See **Figure 1**, location map)

1.3 HISTORY OF PROJECT.

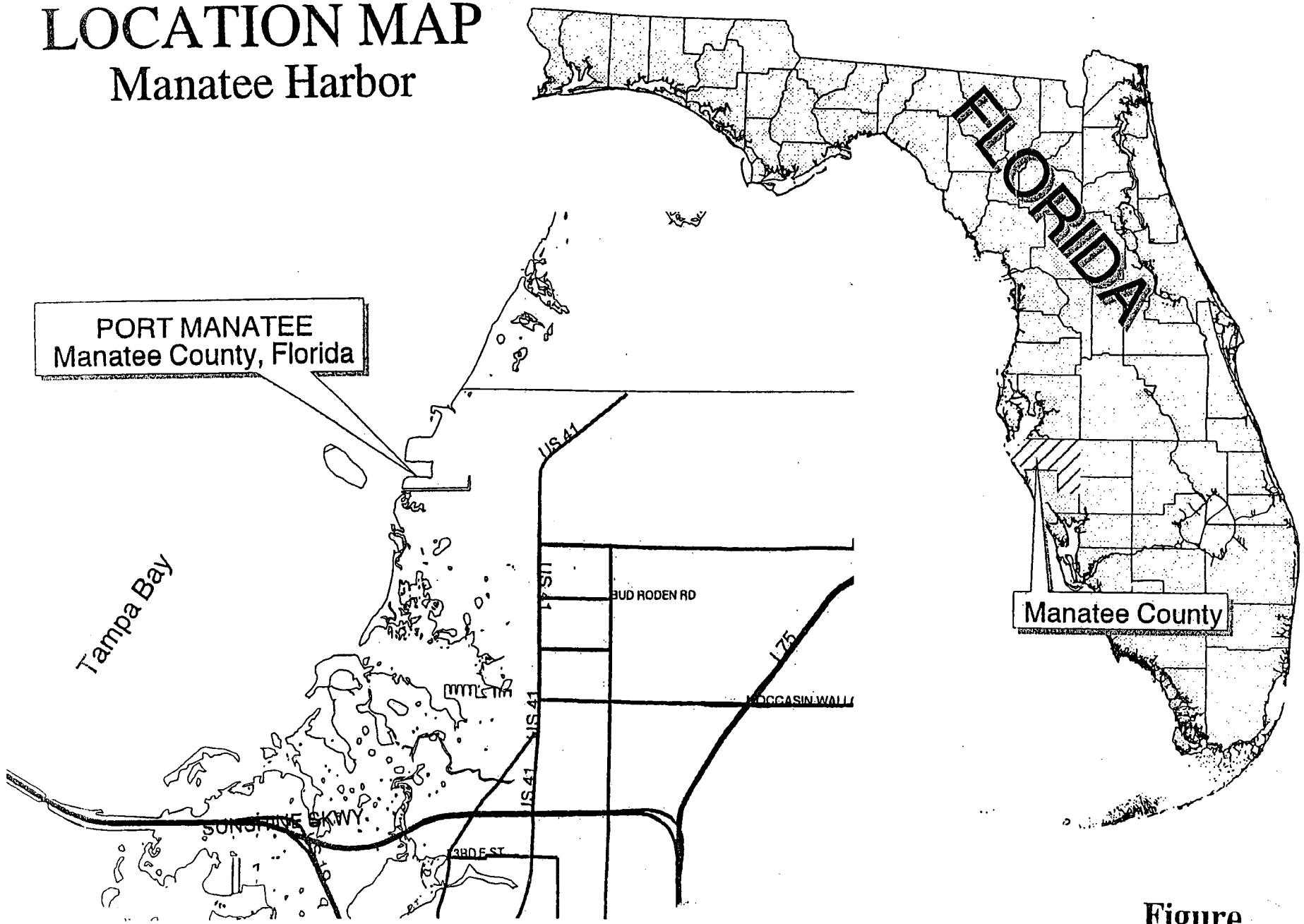
Port Manatee was constructed with local funds during the period from August 1968 to February 1970. Dredging created a turning basin and docking areas. A portion of the dredged material was placed in four rectangular open water areas overtopped with approximately eight feet of water. The other portion was also placed in an open water area so as to create a 62-acre island. The Manatee County Port Authority performed maintenance dredging of the entrance channel, turning basin, and berthing area during the 1983-1984 period. After the project was authorized in 1986, Operations and Maintenance dredging occurred twice, once in March 1992 and again in 1999.

1.3.1 PREVIOUS STUDIES

- The Corps' study of the Manatee Harbor navigation project was initiated in 1976 with a plan of study and a preliminary report of the findings completed in April 1977. A Feasibility Report and Environmental Impact Statement (EIS) were completed in 1978.

- A General Design Memorandum (GDM) was approved in 1983 under the continued planning and engineering category.

LOCATION MAP
Manatee Harbor



Figure

• In 1989 the Waterways Experiment Station (WES) performed a ship simulation study to determine if the proposed channel improvements would allow traffic safe and efficient use of the port facilities independent of tides. The study recommended a turn widener to be provided on the north side of the entrance channel and recommended shifting the turning basin slightly to the north.

• A General Design Memorandum Supplement 1 was prepared in 1990, which modified the project design in accordance with the WES study.

• In 1992, an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) were prepared to address channel and turning basin configuration changes.

• In 1993-1994 a Limited Reevaluation Report (LRR) was prepared which authorized the project to be constructed into two phases. Phase 1 was completed in 1997 and consisted of deepening the existing channel and turning area to the authorized depth of -40 feet. Phase II consisted of new wideners at the junction with the Tampa Harbor channel and enlarging the turning basin to 900-feet. Phase II was never constructed.

• WES conducted another ship simulation study for Port Manatee in1999. This study also recommended widening the entrance channel at its intersection and enlarging a portion of the channel south of the entrance. The ship simulation also concluded that the turning basin would be better located on the centerline of the entrance channel. However, one undesirable aspect of placing the turning basin on the centerline of the entrance channel is it would impact more seagrasses and would require additional mitigation.

• The recommended plan with updated economic analysis is presented in this Engineering Documentation Report (EDR). The EDR is needed to document the design and cost for the revised entrance channel wideners and for relocation of the project turning basin to the north side of the channel. The EA is being prepared to address these features. Basically, this document is addressing Phase II, which was authorized in the 1994 LRR and never constructed.

1.4 DESCRIPTION OF AUTHORIZED PROJECT

The authorized project provides for Federal maintenance of an existing 400-foot wide entrance channel and turning basin to a depth of -40 feet, the construction of a widener at the northwest end of the entrance channel, and enlarging the turning basin to 900 feet in diameter (**Figure 2**).

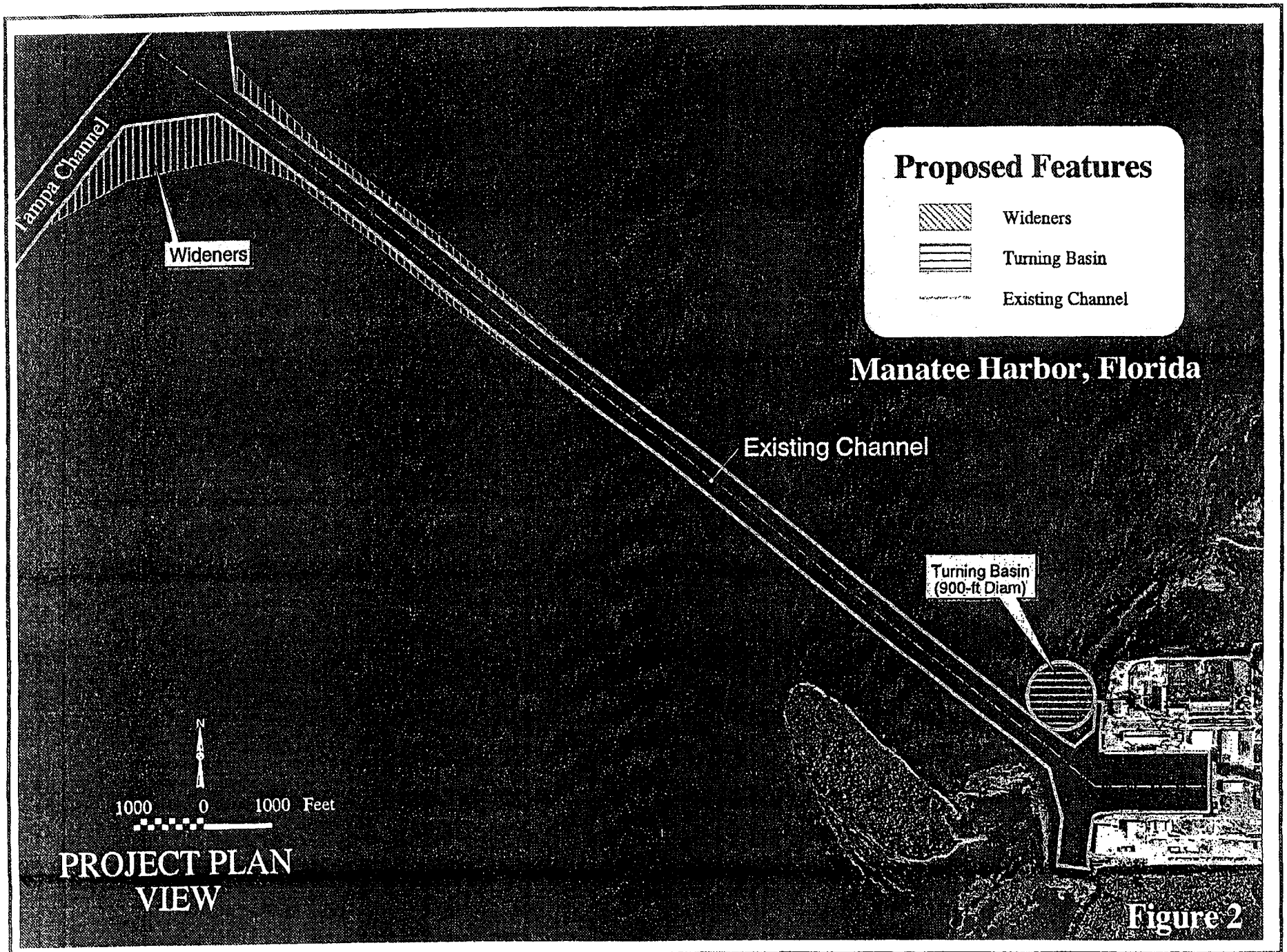

Tampa Channel
Wideners
Proposed Features
Wideners
Turning Basin
Existing Channel
Manatee Harbor, Florida
Existing Channel
Turning Basin
(900-ft Diam)
N
1000 0 1000 Feet
PROJECT PLAN
VIEW

Figure 2

1.5 PROJECT NEED OR OPPORTUNITY.

The project would result in improved navigation conditions for Port Manatee users while providing the Port economic benefits. Under existing conditions, ships drafting 25 feet or more travel the Manatee Channel during slack tide in order to avoid the strong cross currents present at other conditions. The proposed improvements would allow traffic to use the facility regardless of tides and result in safer vessel navigation conditions.

1.6 AGENCY GOAL OR OBJECTIVE.

The goal of the proposed project is to provide improved navigation conditions for Manatee Harbor users. The proposed improvements would allow traffic to use the facility regardless of tides and result in safer vessel navigation conditions. (See **Figure 2**, project plan view) .

1.7 DECISIONS TO BE MADE.

This Environmental Assessment will evaluate whether the proposed project would cause any significant environmental impacts and will make available to all decision makers and interested parties, a discussion of alternatives, which eliminate or minimize adverse impacts.

1.8 SCOPING AND ISSUES.

1.8.1 ISSUES EVALUATED IN DETAIL.

The following issues were identified to be relevant to the proposed action and appropriate for detailed evaluation:

a. Impacts on sea turtles
b. Impacts on manatees
c. Impacts to seagrass communities
d. Impacts to hardgrounds communities
e. Impacts to migratory birds

1.8.2 IMPACT MEASUREMENT.

The following provides the means and rationale for measurement and comparison of impacts of the proposed action and alternatives. Section 4.0, Environmental Effects, specifically investigates impact measurement and comparison.

1.8.2.1 Sea Turtles: The threatened loggerhead turtle is the most abundant species occurring in Gulf of Mexico waters. Loggerheads inhabit coastal areas of the continental shelf where they forage around rocky places, coral reefs, shellfish beds, and old boat wrecks; they commonly enter bays, lagoons, and estuaries (NMFS 1995b). Although rare, the occurrence of Kemp's ridley and green sea turtles in the Tampa Bay area has been documented by stranding records. Loggerhead nesting occurs along the Pinellas, Hillsborough, and Manatee County

beaches adjacent to the Tampa Bay during the months of May through September (NMSF 1995b). The construction and maintenance of Federal navigation channels has been identified as a potential significant source of sea turtle mortality (NMFS 1999). Pipeline, clamshell, and hopper dredges are all used to dredge and maintain navigation channels and pose varying levels of risk for entraining sea turtles. Hopper dredges pose the greatest threat to sea turtles because of their rapid movement. Pipeline and clamshell dredges are relatively stationary, and therefore do not pose a great threat to sea turtles. The Corps' South Atlantic Division has provided documentation of hundreds of hours of informal observations of working pipeline dredges by Corps inspectors during which no evidence of take of listed species were observed (NMFS 1999). Monitoring by other agency personnel, conservation organizations, and the general public has never resulted in reports of a turtle being taken by pipeline dredges (NMFS 1995a).

1.8.2.2. Manatees: The population and distribution of manatees in Tampa Bay varies throughout the year. They may be found throughout the bay most of the year but have concentrated or restricted distributions during winter and calving seasons. Approximately 50-60 manatees live in Tampa Bay during the summer and about 200 may be found in the bay during the winter as they concentrate near thermal refugia (USFWS 1999). The proposed project area is not a concentration area such as a thermal discharge or freshwater source. However, the area has a history of manatee use due to the extensive seagrass beds. In addition to a feeding area, manatees use the project area for travel and rest. According to the Florida Manatee Recovery Plan (1996), the highest number of Florida manatees counted in Florida waters was 1,856 during a synoptic aerial survey conducted at warm-water refugia over a two-day period in January 1992. Increasing numbers of manatees killed by boats and tremendous increases in boat traffic are the most important problem presently faced by manatees in Florida (USFWS,1996).

1.8.2.3. Seagrass Communities: Seagrasses provide shelter, nursery and feeding habitat for many fish and shellfish. Grass beds also help to improve water clarity by anchoring bottom sediments and reducing nutrients in the water column (TBNEP 1996). In previous studies of productivity and diversity, Springer and Woodburn (1960) collected 249 fishes in Tampa Bay; many of which are dependent on estuarine grassbeds for food and cover. The project will result in the loss of seagrass beds and shallow water habitats; both of which are generally important in the life cycle of most bay and estuarine fish.

1.8.2.4. Hardground Communities: Hard bottom communities are benthic habitats dominated by epifaunal organisms such as sponges, hard and soft corals, hydroids, anemones, barnacles, bryozoans, decapod crustaceans and gastropods. Hard bottom communities can be found throughout the central and southern coastal regions of Florida. Community composition varies as bottom type varies from the well-documented coral reefs of southeastern and Keys region of the state to the

vermetid and coquina reefs of east central Florida and the limestone outcroppings of the west central coast (Lewis and Savercool 1994).

Although hard bottom communities do not dominate Florida's estuarine and marine benthos, studies have reported two hard bottom communities located in Tampa Bay. The northernmost community is located in the central portion of the bay around the Gandy Bridge and the other is located south from Bishop Harbor to Terra Ceia in lower Tampa Bay. The hard bottom communities in these two locations are of native limestone outcroppings (Lewis and Savercool 1994).

Although only two communities have been located, the presence of other benthic communities in Tampa Bay that are associated with hard bottoms, such as oyster bars, suggest that others exist. Also, limestone bedrock has become exposed through dredging to maintain shipping channels, making habitat potentially available for epifaunal benthos (Lewis and Savercool 1994).

1.8.2.5. Migratory Birds: Migratory birds are frequently found in the Tampa Bay area. Development has reduced the nesting areas available for birds. However, dredging and creation of dredged material disposal areas has recreated suitable areas for nesting.

1.9 PERMITS, LICENSES, AND ENTITLEMENTS.

Water quality certification has been applied for by the Manatee County Port Authority as required by Section 401 of the Clean Water Act. The Port has received a "Notice of Intent to Issue" an environmental resource permit (dated April 12, 2002) for the proposed construction dredging. Issuance of the environmental resource permit also constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

2 ALTERNATIVES

The alternatives section is the heart of this EA. This section describes in detail the no-action alternative and reasonable alternatives that were studied in detail. Then based on the information and analysis presented in the sections on the Affected Environment and the Probable Impacts, this section presents the beneficial and adverse environmental effects of all alternatives in comparative form, providing a clear basis for choice among the options for the decision maker and the public.

2.1 DESCRIPTION OF ALTERNATIVES.

2.1.1 NO ACTION ALTERNATIVE.

The no action alternative would result in the continuing maintenance of the existing entrance channel and turning basin. Use of the port facility would continue to be restricted by tides. The no action alternative would not achieve the project purpose of improving navigation for port users.

2.1.2 ENTRANCE CHANNEL WIDENERS

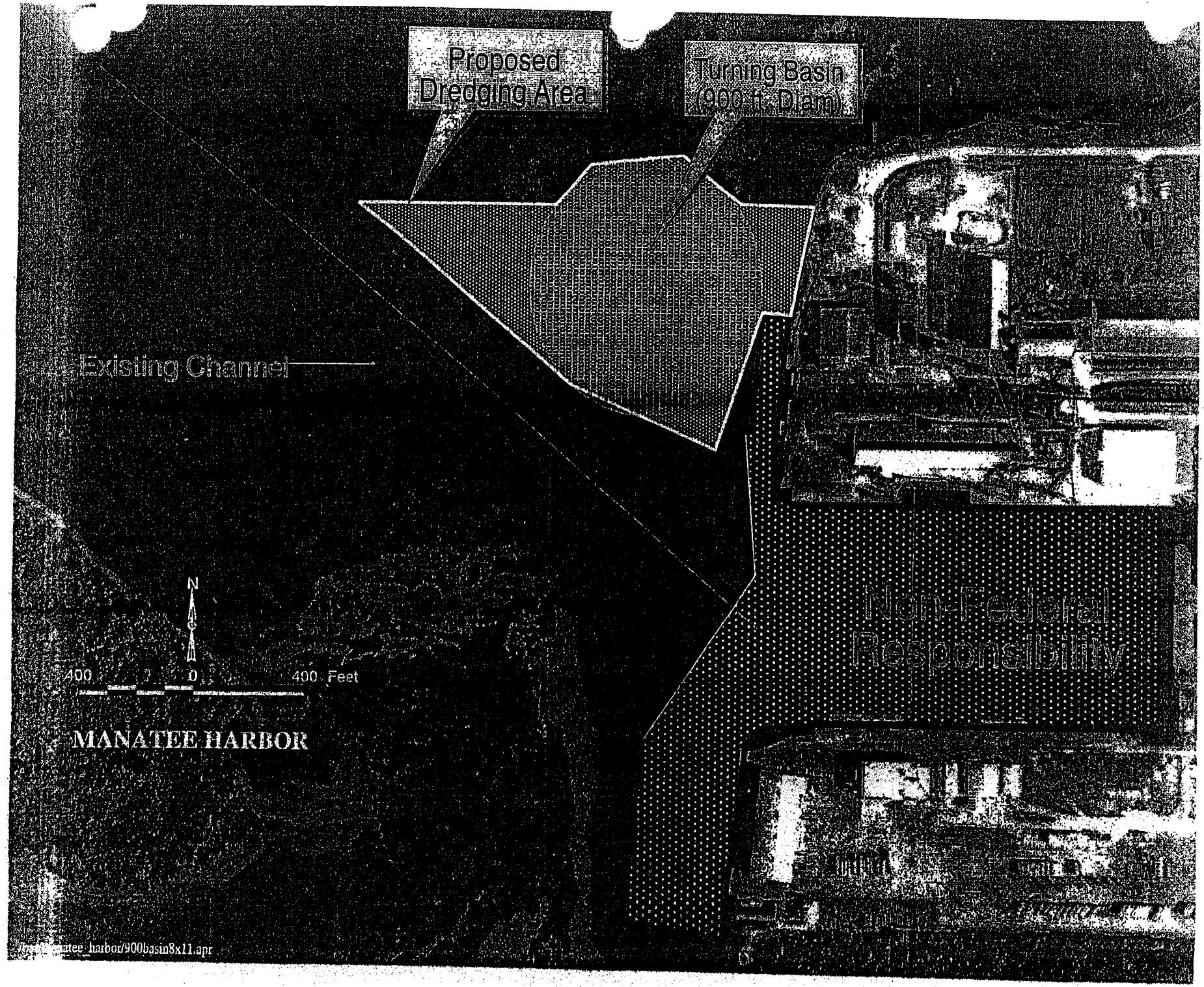
The channel wideners would be dredged at the junction of the Port Manatee access channel and the Tampa Bay channel. One cut would be located on the north side of the entrance channel, the other on the south. The channel wideners would be dredged to a maximum depth of – 40 ft. mean lower low water (m.l.l.w.). Material to be dredged to create the channel wideners consist of sand and shell.

2.1.3 RELOCATE TURNING BASIN

The 900-foot diameter turning basin was realigned after a ship simulation study was conducted by the Corps' Waterways Experiment Station (WES) to identify the most efficient and safe channel alignment. The ship simulation concluded the turning basin would be better located on the centerline of the entrance channel. This would result in time and tug usage savings. However, placing the turning basin on the centerline of the entrance channel would impact more seagrasses and require additional mitigation. For this reason, the turning basin has been realigned to the north, thus, avoiding densely populated seagrasses to the south (**Figure 3**).

2.1.4 RECOMMENDED PLAN

The recommended plan includes the two features listed above in sections 2.1.2 and 2.1.3, which would include construction of wideners along both the north and south sides of the channel at the intersection with the Tampa Harbor Channel and construction of a 900-foot diameter turning basin at the eastern end of the Manatee Harbor Channel. The project features would be dredged to the existing authorized depth of -40 feet. Excavated material would be placed in the existing upland disposal area.


Proposed Dredging Area
Turning Basin (900 ft. Diam)
Existing Channel
N
400
0
400 Feet
MANATEE HARBOR
Non-Federal Responsibility
atee_harbor/900basin8x11.apr

2.1.5 DISPOSAL SITE

The Manatee County Port Authority, local sponsor for the project has an existing approved 95-acre upland diked dredged material disposal facility on Port property (**Figure 4**). This site has been used previously for maintenance dredging of the Port Manatee access channel. The Port Authority would upgrade the existing dikes around a portion of this disposal site.

DREDGING METHODS

Selection of dredging methods to remove sediments is not part of the alternative analysis. It is anticipated that the preferred method of dredging would be a hydraulic suction dredge or by clam bucket. It is not expected that a hopper dredge would be used because it cannot excavate rock. If blasting were required to remove rock, the Contractor would have to file a blasting plan for the Corps' review and approval before proceeding. Additionally, this would have to be further coordinated with other agencies. Blasting is considered unlikely, but cannot be ruled out completely.

2.2 COMPARISON OF ALTERNATIVES

Table 1 lists alternatives considered and summarizes the major features and consequences of the proposed action and alternatives. See section 4.0 Environmental Effects for a more detailed discussion of impacts of alternatives.

2.3 MITIGATION

The mitigation plan to offset impacts for the Manatee Harbor project is comprehensive in that it covers impacts associated with the Federal navigation channel improvements addressed in this EA, and the Manatee County Port Authority's (MCPA) proposed berth expansions. The Corps has agreed to this method at the Sponsor's (MCPA) request and because the Florida Department of Environmental Protection (FDEP) has stated that they prefer one large mitigation plan as opposed to two smaller ones.

The overall plan involves transplanting of seagrasses before dredging, construction of a tidal creek/marsh system, modification of the dredge spoil island for restoration of endangered species habitats and tidal creeks for additional mangrove enhancement, construction of a boat ramp with a marked channel and educational signage and management of the entire area. This Plan has developed extensively as a result of comments received during the review process.

Seagrass creation and restoration will involve transplanting of all seagrasses from areas to be dredged to selected areas. Additional donor material will be taken from nearby traditional donor areas south of the spoil island, as needed.

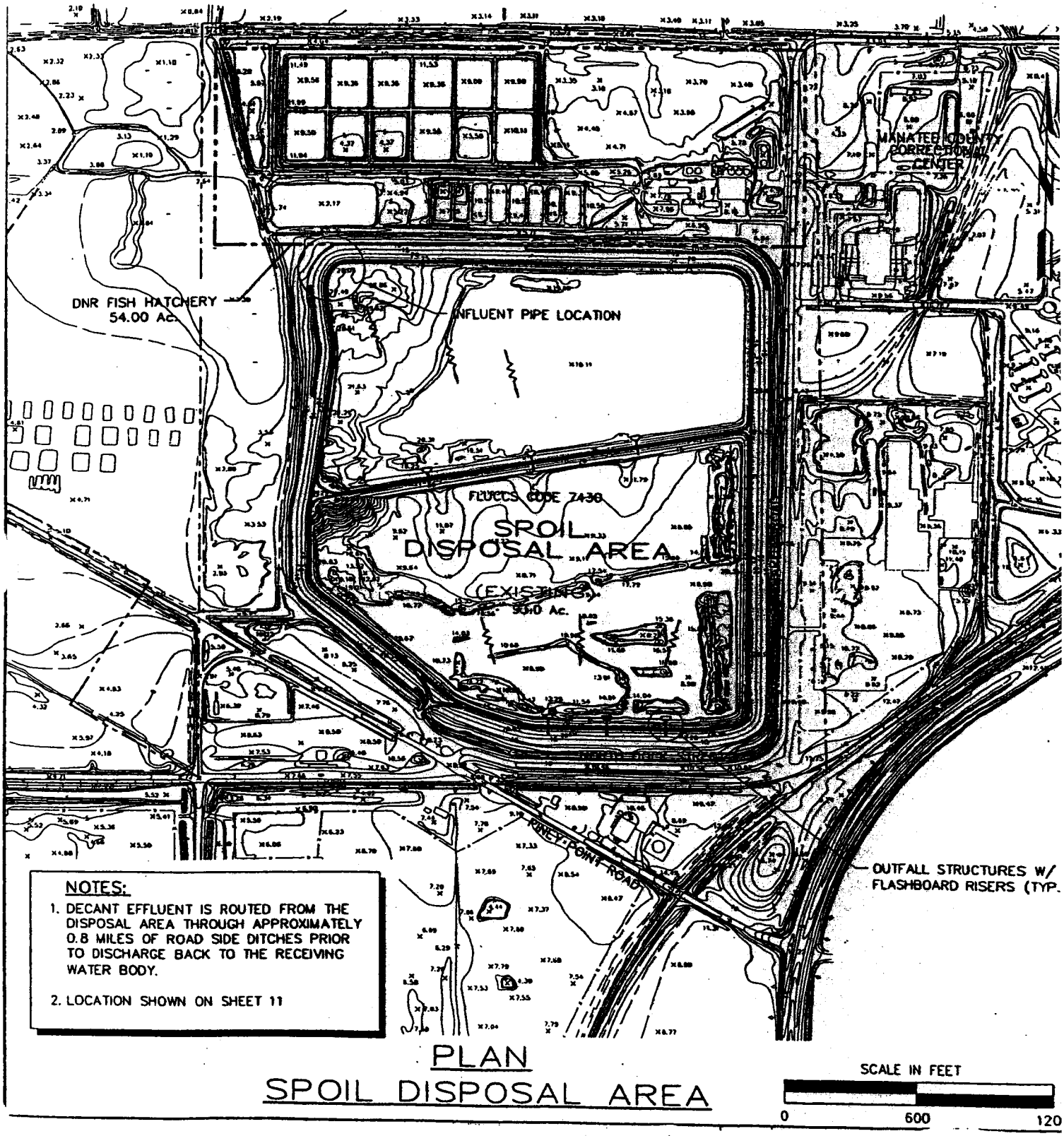


FIGURE 4. UPLAND DISPOSAL AREA

Table 1: Summary of Direct and Indirect Impacts

ALTERNATIVE ENVIRONMENTAL FACTOR	900' Turning Basin	Entrance Channel Wideners	Recommended Plan	No Action (Status Quo)	Existing Port Disposal Site (Upland Site)
PROTECTED SPECIES	No impact to manatees or sea turtles expected.	No impact to manatees or sea turtles expected.	No impact to manatees or sea turtles expected.	No impact.	No impact expected.
HARD GROUND	Dredging would impact approx. 0.88 acres of hard bottom habitat.	No hard grounds present; no impact.	Dredging would impact approx. 0.88 acres of hard bottom habitat.	No impact.	No impact.
ESSENTIAL FISH HABITAT	Dredging would impact approx. 4.75 acres of seagrass and 0.88 acres of hardbottom.	No impacts expected	Dredging would impact approx. 4.75 acres of seagrass and 0.88 acres of hardbottom.	No impact.	No impact.
FISH AND WILDLIFE RESOURCES	Temp. impact to benthic organisms.	Temp. impact to benthic organisms.	Temp. impact to benthic organisms.	No impact.	No impact expected.

ALTERNATIVE / ENVIRONMENTAL FACTOR	900' Turning Basin	Entrance Channel Wideners	Recommended Plan	No Action (Status Quo)	Existing Port Disposal Site (Upland Site)
VEGETATION	Dredging activities would impact approx. 4.75 acres of seagrass.	No impact expected	Dredging activities would impact approx. 4.75 acres of seagrass.	No impact.	No impact expected.
WATER QUALITY	Temp. increase in turbidity and suspended sediments at dredging site.	Temp. increase in turbidity and suspended sediments at dredging site.	Temp. increase in turbidity and suspended sediments at dredging site.	No impact.	No impact.
HISTORIC PROPERTIES	No impact expected.	No impact expected.	No impact expected	No impact expected.	No impact expected.
RECREATION	Temp. impact on rec. fishing in the immediate dredging area.	Temp. impact on rec. fishing in the immediate dredging area.	Temp. impact on rec. fishing in the immediate dredging area.	No impact.	No impact.
AESTHETICS	Temp. impact by the presence of the dredge & other const. equipment.	Temp. impact by the presence of the dredge & other const. equipment.	Temp. impact by the presence of the dredge & other const. equipment	No impact.	No impact.

ALTERNATIVE ENVIRONMENTAL FACTOR	900' Turning Basin	Entrance Channel Wideners	Recommended Plan	No Action (Status Quo)	Existing Port Disposal Site (Upland Site)
NAVIGATION	Better access and safer navigation for vessels.	Better access and safer navigation for vessels.	Better access and safer navigation for vessels.	Port users will continue to be restricted by tides.	No impact.
ECONOMICS	Increase in economics for Port Manatee.	Increase in economics for Port Manatee.	Increase in economics for Port Manatee.	Decrease in economics for Port Manatee.	No impact.
MIGRATORY BIRDS	No impact expected.	No impact expected.	Temp. adverse impact on nesting during 1 April-31 August nesting window. No adverse impact expected if work is conducted outside window.	No impact expected.	Temp. adverse impact on nesting during 1 April-31 August nesting window. No adverse impact expected if work is conducted outside window.

At the time the permit application was submitted to FDEP, seagrass habitat impacts were estimated to be 12.7 acres at for the entire proposed Port Manatee berth expansion project (Federal and non-Federal). This estimate was based on a seagrass survey conducted by Lewis Environmental Services, Inc. (LES) in June 1998. The survey results were determined for the most part by photo-interpretation of aerial photographs taken in May 1998. Limited groundtruthing was done during this survey. Based on this survey, it is estimated that 4.75 acres of seagrass would be impacted if the proposed 900-ft. turning basin were constructed. More recent surveys conducted in June 2000, have revealed a lesser amount of seagrass (approximately 3 acres) in the proposed turning basin area (see LES letter dated 8/2/01 in **Appendix C**) . However, for preparation of this EA, a decision was made to use the June 1998 seagrass survey results. The bases for this decision is to be consistent with the seagrass amount coordinated with the FDEP for the Environmental Resource Permit (ERP) and the Corps' Regulatory Division for the Department of Army Permit. The proposed dredging area would be surveyed/measured prior to impact.

The FDEP Conceptual ERP and the ERP for the seagrass mitigation contain specific conditions that will ensure that the mitigation compensates for the impacts associated with the project. The conditions of the ERP are also incorporated into the Department of the Army permit.

Dredging and filling for the turning basin will not begin until the seagrasses within the impact site are transplanted and become successfully established.

The most updated Seagrass Mitigation Plan for Port Manatee Navigation and Berth Improvements, dated July 5, 2000, can be found in **Appendix E**. The mitigation plan defines the seagrass protection management plan; the methodology to be used for site preparation, harvesting and planting of seagrasses; and the criteria to be met for mitigation success, including monitoring and remedial action details.

The tidal creek restoration will focus on historic Little Redfish Creek, which was filled years ago. Additional creek construction will restore tidal flow to existing mangroves through the construction of a tidal creek on the existing 66-acre Dredged Material Island.

In addition, the existing Dredged Material Island will be actively managed to restore its historical use as a seabird nesting area (Paul and Schnapf, 1998) through the implementation of a Dredged Material Island Restoration and Management Plan prepared by National Audubon Society Florida Coastal Island Sanctuaries Program.

An active management and protection program for all restored seagrass areas and existing seagrass beds and shallow unvegetated flats is proposed to be led by the

Manatee County Port Authority in conjunction with the State of Florida and the Environmental Management Department of Manatee County. This active management plan will include providing educational signage and channel markers with associated monitoring and enforcement to control boat traffic movement and speed within the management area.

Due to its large volume, the Mitigation Plan for Port Manatee Navigation and Berth Improvements (Gee & Jenson, 1999) is not included as an attachment to this EA. However, the Seagrass Mitigation Plan for Port Manatee Navigation and Berth Improvements, dated July 5, 2000, can be found in **Appendix E.**

3 AFFECTED ENVIRONMENT

The Affected Environment section succinctly describes the existing environmental resources of the areas that would be affected if any of the alternatives were implemented. This section describes only those environmental resources that are relevant to the decision to be made. It does not describe the entire existing environment, but only those environmental resources that would affect or that would be affected by the alternatives if they were implemented. This section, in conjunction with the description of the "no-action" alternative forms the base line conditions for determining the environmental impacts of the proposed action and reasonable alternatives.

3.1 GENERAL ENVIRONMENTAL SETTING

Tampa Bay is the largest estuary in Florida. It is a complex network of creeks, rivers, and bays that drains some 2,200 square miles of Florida's west central peninsular coast. Port Manatee is located within the southern portion of the Tampa Bay estuary approximately 25 channel-miles from Tampa. It is Florida's fifth largest port. Although the surrounding area is densely populated, the port is located in a relatively unpopulated area. Port Manatee is located between two Aquatic Preserves. Located to the north of the Port is the Cockroach Bay Aquatic Preserve. To the south is the Terra Ceia Aquatic Preserve (See **Figure 5**, Map of Environmental Resources).

3.2 VEGETATION

Sea grass beds in Tampa Bay are extremely productive and used by a wide range of species as feeding grounds, nurseries, and refuges from predation. Five species of seagrasses are found in the shallow areas of Tampa Bay: turtlegrass (*Thallasia testudinum*), manatee grass (*Syringodium filiforme*), shoal grass (*Halodule wrightii*), widgeon grass (*Ruppia maritima*), and star grass (*Halophila engelmanii*) (USCOE 1992). Turtlegrass is the predominate species of seagrass found in the proposed work area along with shoalgrass, and a mix of widgeon grass, can also be found.

CATEGORY	SUBCATEGORY	LAND USE	DESIGNATION
DEVELOPED LAND	TRANSPORTATION, COMMUNICATION AND UTILITIES	PORT FACILITIES	8150
		COUNTY MAINTAINED ROADS	8144
		GRADED AND DRAINED ROADS	8145
		OTHER OPEN LANDS	1940
	DISTURBED LAND	BORROW PITS	7420
NATURAL LAND	UPLAND CONIFEROUS	PINE FLATWOODS	4110
		PINE/MESIC OAK	4140
	UPLAND HARDWOOD	BRAZILIAN PEPPER	4220
		TEMPERATE HARDWOOD	4290
		(MYSRIC) HAMMOCK	
		LIVE OAK	4270
		CABBAGE PALM	4280
		MIXED CONIFEROUS/HARDWOODS	4340
		AUSTRALIAN PINE	4370
	AQUATIC	BAYS/ESTUARIES	5400
		OPEN TO GULF	5410
		CLOSED	5420
	WETLANDS	MANGROVE SWAMP	6120
		FRESHWATER MARSH	6140
		SALT MARSH	6420
		(CORDGRASS)	6421
		(NEEDLERUSH)	6422
		(HIGH MARSH)	6423
		TIDAL FLATS (UNVEGETATED)	6510
		(SUBTIDAL)	6511
		(SUPRATIDAL)	6512
SPECIAL CLASSIFICATION		DENSE SEAGRASS	9112
		PATCHY SEAGRASS	9113
		ATTACHED ALGAE	9121
MIXED CLASSIFICATION			710
			1111
			1940/4220
			1940/4370/4220
			4110/4220
			4110/4270/4280
			4220/4340
			4220/6423
			4270/4280
			4370/4220
			6120/6423

*Florida Land Use, Cover and Forms Classification System. 1985. Florida Department of Transportation, State Topographic Bureau, Tallahassee, Fl. 81 pp.

FIGURE 5 - RESOURCES

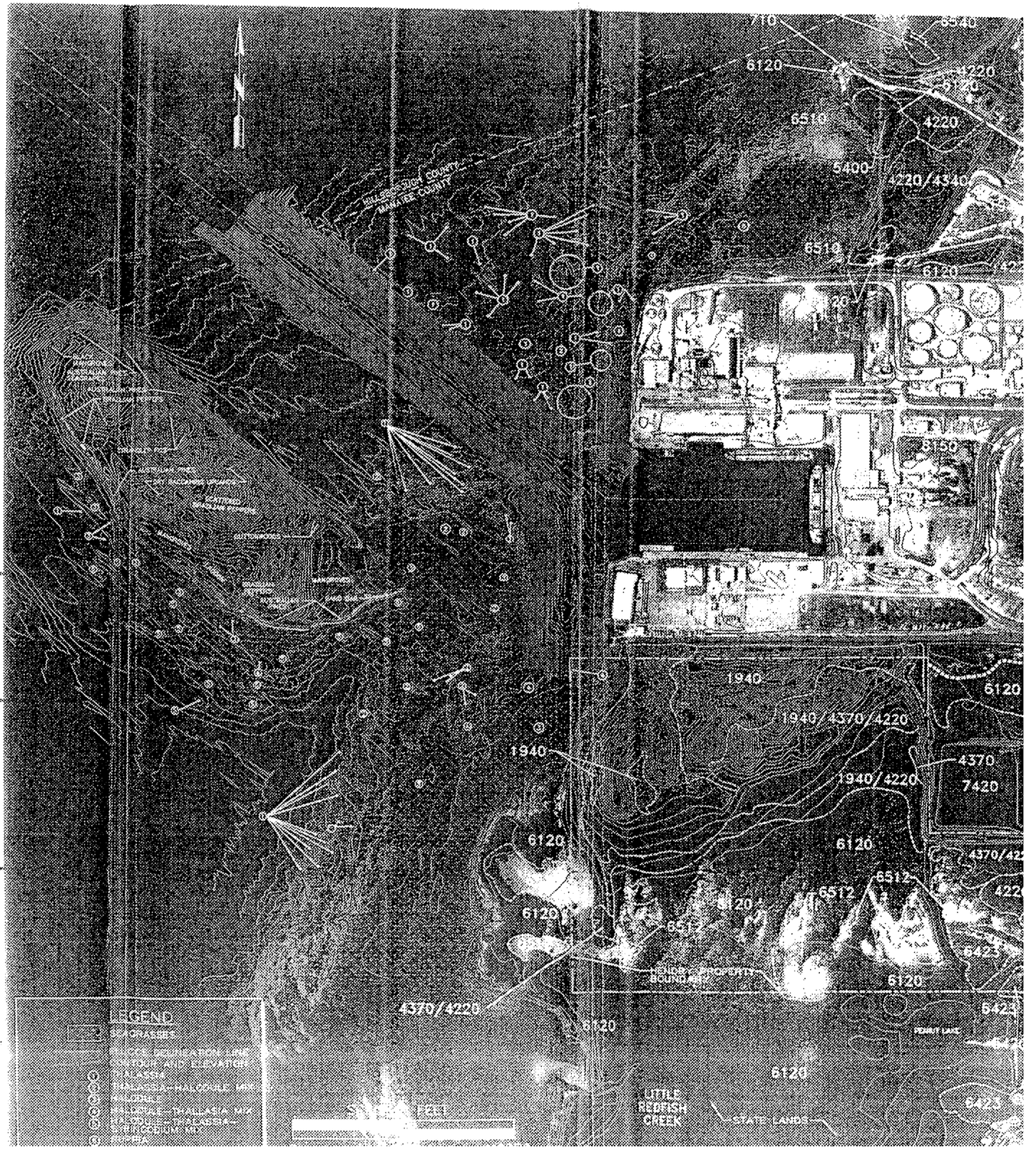
SOURCE:

- LEWIS ENVIRONMENTAL SERVICES PROVIDED SEAGRASS MAPPING, FLUCCS MAPPING & MITIGATION 6/1/98 - 6/5/98.
- PHOTOGRAMMETRIC TECHNOLOGIES INC. PROVIDED TOPOGRAPHIC DATA AND AERIAL PHOTOGRAPH 5/3/98.
- SUNBELT SURVEYORS PROVIDED BATHYMETRIC DATA 4/11/95
- NATIONAL AUDUBON SOCIETY PROVIDED HABITAT MAPPING OF DREDGED MATERIAL ISLAND 1/29/98.

LEWIS ENVIRONMENTAL SERVICES INC.

National Audubon Society

PORT MANATEE



Engineers • Architects • Planners, Inc.

3.3 THREATENED AND ENDANGERED SPECIES

3.3.1 SEA TURTLES

Marine turtles are common in Tampa Bay. The loggerhead sea turtle (*Caretta caretta*) and Kemp's ridley sea turtle (*Lepidochelys kempii*) are year-round residents (TBNEP 1996). Loggerhead sea turtles annually nest on coastal beaches north and south of Tampa Bay. In 1994, a green sea turtle (*Chelonia mydas*) nest was reported at Ft. Desoto County Park in Pinellas County. Additionally, in 1994, a Kemp's ridley sea turtle nest was reported on a north Pinellas County beach. A Kemp's ridley nest was also reported on a mid Pinellas County beach in 1989 (Meylan, Schroeder and Moser 1995 and FDEP 1998).

3.3.2 WEST INDIAN MANATEE

The population and distribution of manatees in Tampa Bay varies throughout the year. Approximately 50-60 manatees live in Tampa Bay during the summer and about 200 may be found in the bay during the winter (USFWS 1999). The Tampa Electric Company's Big Bend Power Plant located approximately 6 miles north of Manatee Harbor is a winter refuge for manatees. This is the closest winter refuge to Manatee Harbor. The Little Manatee River is recognized as a preferred calving site for Tampa Bay. It empties into the bay about 1 mile north of the action area for the project (USFWS 1999). Although the project area is not within designated critical habitat for the manatee, they still may use the area for travel, rest and feeding.

3.4 HARDGROUNDS

Although hard bottom communities do not dominate Florida's estuarine and marine benthos, studies have reported two hard bottom communities located in Tampa Bay. The northernmost community is located in the central portion of the bay around the Gandy Bridge and the other is located south from Bishop Harbor to Terra Ceia in lower Tampa Bay. The hard bottom communities in these two locations are on native limestone outcroppings (Lewis and Savercool 1994).

Although only two communities have been located, the presence of other benthic communities in Tampa Bay that are associated with hard bottoms, such as oyster bars, suggest that others exist. Also, limestone bedrock has become exposed through dredging to maintain shipping channels, making habitat potentially available for epifaunal benthos (Lewis and Savercool 1994).

3.5 FISH AND WILDLIFE RESOURCES

Fish and wildlife resources in the project area are typical of those in Tampa Bay. Tampa Bay is classified as a subtropical estuary although the project is in an area of overlap between subtropical marine species and temperate marine species. Resources in the Manatee Harbor area include seagrass meadows, tidal marshes,

mangrove stands, developed and undeveloped uplands, unvegetated and vegetated shallow bay bottom, a material disposal island and open water; however, the resources within the impact area of the proposed work consist of seagrass meadows, unvegetated and vegetated shallow bay bottom, open water, undeveloped uplands.

The Tampa Bay area supports both commercial and recreational fisheries. Many commercially important fish are present in grass beds as juveniles obtaining both food and shelter (Ogden 1980). Fish of commercial and recreational significance include striped mullet (*Mugil cephalus*), spotted seatrout (*Cynoscion nebulosus*), grouper (*Mycteroperca sp.* and *Epinephelus sp.*), tarpon (*Megalops atlanticus*), snook (*Centropomus undecimalis*), red drum (*Sciaenops ocellatus*), cobia (*Rachycentron canadum*), and sand seatrout (*Cynoscion arenarius*). However, the ten dominant fish species in Tampa Bay in order of abundance are tidewater silverside (*Menidia peninsulae*), bay anchovy (*Anchoa mitchilli*), scaled sardine (*Harengula jaguana*), striped mullet (*Mugal cephalus*), pinfish (*Lagodon rhomboides*), longnose killifish (*Fundulus similis*), silver perch (*Bairdiella chrysoura*), silver jenny (*Eucinostomus gula*), and code goby (*Gobiosoma robustum*) (USACE 1992).

Several studies dealing with Florida Seagrass beds and their associated animal communities show that diversity and abundance of fish and invertebrates are usually higher in grass beds than in unvegetated habitats. Mobile invertebrate epifauna, including several species of echinoids, asteroid and gastropods, feed upon the seagrasses and associated epiphytes. Other invertebrates such as some crabs, shrimp and gastropods are carnivorous, feeding on smaller herbivores and detritus feeders (Lewis, Durako, Moffler and Phillips 1985). Very scattered individual colonies of colonial tunicates and soft corals (*Leptogorgia virgulata*) may be found in the project area (Gee & Jenson,Inc. 1999).

Table 2 shows the results of the invertebrates observed during grassbed sampling by USFWS biologists during their onsite inspections on April 2-3, 1991. The sampling area is located south of the existing channel of the proposed turning basin. The sampling area is 2 ½ feet belowmean low water (m.l.w.). Biomass samples of two grassbed locations were taken.

MIGRATORY BIRDS. Migratory birds are frequently found in the Tampa Bay area. Development has reduced the nesting areas available for birds. However, dredging and creation of dredged material disposal areas has recreated suitable areas for nesting. Gulls, terns, sandpipers, plovers, stilts, skimmers and oystercatchers are known to inhabit the Bay. Wading birds such as herons, egrets, and ibises use the interior wetland areas.

Table 2. Invertebrate Species Observed (USFWS 1991)

Species	
Say's Mud Crab (*Neopanope texana*)	Crustaceans
Stone Crab (*Menippe mercenaria*)	
Scud (*Gammarus oceanicus*)	
Harford's Greedy Isopod (*Cirolana harfordi*)	
Mottled Tube-maker (*Jassa Falcata*)	
Red-eyed Amphipod (*Ampithoe rubricata*)	
Michelin's Sand Dollar (*Encope michelini*)	Echinoderms
Lightning Whelk (*Busycon contrarium*)	Gastropod
Florida Horse Conch (*Pleuroploca gigantea*)	
Mottled Dog Whelk (*Nassarius vibex*)	
Broad-ribbed Cardita (*Carditamera floridana*)	Bivalves
Sunray Venus (*Macrocallista nimbosa*)	
Stiff Pen Shell (*Atrina rigida*)	
Mushroom Tunicate (*Distaplia stylifera*)	Tunicates
Striped Tunicate (*Styela plicata*)	

3.6 ESSENTIAL FISH HABITAT

A separate request for EFH consultation and an EFH assessment was presented to the National Marine Fisheries Service (NMFS) by letter dated August 1, 2000 (see Appendix C). In addition to the August 1, 2000 letter, a meeting was held with NMFS at the Manatee County Port Authority Offices on August 31, 2000 to discuss the EFH Assessment, the latest mitigation plan for the entire project, and how the mitigation plan addressed the EFH impacts. The NMFS provided the Corps with a written project evaluation by letter dated October 6, 2000, which included EFH conservation recommendations. These recommendations can be found in **Appendix C**, Pertinent Correspondence, of the Environmental Assessment. In summary, the proposed dredging sites are located in an area identified by the National Marine Fisheries Service as Essential Fish Habitat (EFH) for juvenile pink shrimp (*Penaeus duorarum*); postlarval and juvenile red drum (*Sciaenops ocellatus*); postlarval , juvenile and adult gray snapper (*Lutjanus griseus*); and, juvenile bluefish (*Pomatomus saltatrix*), Spanish mackerel (*Scomberomerus maculatus*) and yellowtail snapper (*Ocyurus chrysurus*) and lane snapper (*Lutjanus synagris*). Categories of EFH, which would be affected by the project, include seagrasses, estuarine sand substrate and estuarine water column. Refer to **Appendix C**, letter dated January 11, 2001 for a complete EFH analysis.

3.7 COASTAL BARRIER RESOURCES

The project area, Manatee Harbor, is not part of the Coastal Barrier Resources System.

3.8 WATER QUALITY

The waters surrounding Port Manatee are classified by the State of Florida as Class II Waters, prohibited for shellfish harvesting. Various protective measures and monitoring programs will be conducted during construction to ensure meeting State Water Quality criteria. Prior to construction, Water Quality Certification will be obtained by the Manatee County Port Authority from the State of Florida.

3.9 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

The Hazardous, Toxic and Radioactive Waste (HTRW) assessment was conducted for this project in accordance with the requirements of ER-1165-2-123, HTRW Guidance For Civil Works Projects. The assessment indicated, no evidence of HTRW exists. During project construction HTRW awareness should be practiced.

The HTRW database review indicated that no contamination exists at Manatee Harbor or the dredged material disposal area.

3.10 AIR QUALITY

Port Manatee air quality studies have indicated that air quality at Port Manatee is within established Local, State and Federal Standards (MCPA 1991).

3.11 NOISE

Ambient noise around the project area is typical to that experienced in harbor environments.

3.12 AESTHETIC RESOURCES

Port Manatee is located within the southern portion of the Tampa Bay estuary and is surrounded by relatively undeveloped areas. To the north of the Port, is the Cockroach Bay Aquatic Preserve and to the south, is the Terra Ceia Aquatic Preserve. Both of these preserves are considered to be pristine. However, visual aesthetic resources found at Manatee Harbor are not of significant value. Commercial port activities are the main use of the facility.

3.13 RECREATION RESOURCES

The waters surrounding Manatee Harbor provide some recreational value for boaters. The seagrasses provide habitat for recreationally important fishes, and as a result, provide much value for recreational fishing.

3.14 NAVIGATION

Construction and maintenance of the proposed project would result in temporary disruption of normal vessel traffic using the existing navigation channel and port facility. Completion of the project would have a favorable impact on navigation by allowing safe use of the facility regardless of tides.

3.15 HISTORIC PROPERTIES

State Historic Preservation Officer (SHPO) coordination was initiated on September 22, 1999. A remote sensing survey was completed on March 3, 2000. Thirteen anomalies were located during the magnetometer surveys. Six targets were recommended for additional investigations. In November 2001, diver evaluations were conducted on the six magnetic targets. The results of the investigations revealed a scatter of modern debris at the locations. Based on these findings, the proposed project would not impact any National Register of Historic Places eligible cultural resources.

4 ENVIRONMENTAL EFFECTS

This section is the scientific and analytic basis for the comparisons of the alternatives. See table 2 in section 2.0 Alternatives, for summary of impacts. The following includes anticipated changes to the existing environment including direct, indirect, and cumulative effects.

4.1 GENERAL ENVIRONMENTAL EFFECTS

The project would directly impact seagrasses, and shallow bay bottom would be lost. There would be a temporary impact on the marine environment as a result of the dredging operations. This is associated with the degradation of water quality in the channel area. Dredging would result in the destruction of benthic populations, as well as temporary disruption of fish populations, aquatic ecosystems and food chains in the area.

4.2 VEGETATION

4.2.1 NO ACTION ALTERNATIVE

If no action is taken, shallow water areas and grass beds would continue to contribute to the overall resources of the Tampa Bay ecosystem by providing shelter, nursery and feeding habitat for fish and shellfish. Grass beds would also continue to help improve water clarity by anchoring bottom sediments and reducing nutrients in the water column.

4.2.2 TURN WIDENERS

Dredging in the deep open water areas would not have an impact on vegetation since vegetation is not present in these areas. Dredging can impact surrounding seagrass beds by clouding the water, inhibiting light penetration to seagrasses.

4.2.3 900-FT TURNING BASIN

This alternative would directly impact approximately 4.75 acres of shallow bay bottom, which has a varying coverage of seagrass ranging between 3.00 acres and 4.75 acres. The grassbeds provide food, cover, and attachment surfaces for fish and invertebrates. Loss of the seagrasses and the shallow bay bottom (which could become vegetated in the future) would have an adverse effect on these resources if not mitigated. A mitigation plan has been developed and concurred with by Federal and State resource agencies.

4.2.3 RECOMMENDED PLAN

The recommended plan would directly impact approximately 4.75 acres of shallow bay bottom with seagrass coverage due to dredging activities. Loss of seagrasses and the shallow bay bottom would have an adverse effect on these resources if not mitigated. A mitigation plan has been developed and involves salvaging and transplanting all seagrass to be impacted before dredging occurs. Dredging may indirectly impact surrounding seagrass beds by clouding the water, inhibiting light penetration. Invertebrate fauna as well as fish fauna and higher vertebrates inhabit the sea grass communities surrounding Port Manatee.

4.3 THREATENED AND ENDANGERED SPECIES

4.3.1 NO ACTION ALTERNATIVE

The no action alternative would have no effect on threatened and endangered species.

4.3.2 WIDENERS, 900-FT TURNING BASIN, AND RECOMMENDED PLAN

Vessel traffic and dredge operations present a potential threat to endangered and threatened species. Compliance with the Biological Opinion from the USFWS would reduce this potential threat. The proposed project was coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service in accordance with the Endangered Species Act (coordination letters can be found in Appendix C). The agencies agreed that the proposed work would not adversely affect listed species under their jurisdiction. However, if a hopper dredge or explosives are used to excavate navigation channels, the potential to adversely affect sea turtles and/or manatees exists. If blasting were required, the Corps would abide by the manatee protection measures for manatees' set forth by the U.S. Fish and Wildlife Service to prevent injury to manatees and sea turtles. If it is decided that a hopper dredge would be used, further coordination with the National Marine Fisheries Service will be required.

4.3.3 UPLAND DISPOSAL SITE

No impact to threatened and endangered species expected.

4.4 HARDGROUNDS

4.4.1 NO-ACTION ALTERNATIVE

The 0.88 acres of hardground habitat located in the proposed project area would not be affected.

4.4.2 TURN WIDENERS

No impact to hardground habitat would be expected.

4.4.3 900-FT TURNING BASIN

A survey was conducted in August 2001 by R. Robin Lewis, Lewis Environmental Services, Inc. to confirm the sites of hardgrounds, general biological characteristics, and estimated percent cover by actual exposed rock and individual predominant species (refer to **Appendix C**, letter and attachments from Lewis Environmental Services, Inc. dated August 2, 2001). The survey revealed approximately 0.88 acres of hardgrounds in the proposed turning basin area. The hardgrounds are characterized as low to medium quality with low to medium relief. Small (1-2 inch) soft corals, of the species *Leptogorgia virgulata*, were found attached to the isolated patches of low relief rock. Some of the larger rocks had attached small colonies of soft corals and brown algae, *Sargassum filipendulum*. Additionally, very scattered colonies of adult size soft corals to 12 inches in height, boring sponges (*Cliona celata*) and colonial tunicates (*Amaroucium stellatum)* and several unidentified species) were found attached to some of the larger exposed rock. Stone crab borrows were also observed, and several mangrove snapper, *Lutjanus griseus*. Frequent temporary burial by moving sand, varying salinities, and boat prop strikes may reduce the habitat value of these areas (Lewis, 2001).

4.5 FISH AND WILDLIFE RESOURCES

4.5.1 NO-ACTION ALTERNATIVE

The no action alternative would have no effect on fish and wildlife species.

4.5.2 TURN WIDENERS

The dredged areas (-40 feet m.l.l.w.) may be too deep to support an appreciable amount of benthic life, because it would be below the zone of sunlight penetration and low in dissolved oxygen (USFWS, 1991).

4.5.3 900-FT TURNING BASIN AND RECOMMENDED PLAN

The 900-ft. turning basin and recommended plan would result in loss of shallow water habitats and seagrass beds which are important in the life cycle of fish and invertebrates. Seagrasses, in particular, provide food, cover, and attachment surfaces for fish and invertebrates. The loss of seagrasses would have an adverse effect on these resources if not mitigated. Motile species such as fish and crustaceans may experience some short-term impacts. However, these organisms should be able to vacate the dredging site during construction activities. The short-term adverse ecological impact is more likely to be to non-motile species such as filter feeding, burrowing and attached organisms. Many of the species that are not able to escape the construction area are expected to recolonize within 6 months to a year after project completion. However, the dredged areas (-40 feet m.l.l.w.) may be too deep to support an appreciable amount of benthic life, because it would be below the zone of sunlight penetration and low in dissolved oxygen (USFWS,

1991). Scattered individual colonies of colonial tunicates and soft corals may be affected.

MIGRATORY BIRDS: There may be a temporary adverse impact on migratory nesting should the construction occur during the 1 April through 31 August timeframe. However, the impact would be minimized by implementing the U.S. Army Corps of Engineers, Jacksonville District's Migratory Bird Protection Policy. If the work occurs outside this timeframe, there would be no adverse impact on these birds. There would be a long-term moderate benefit to nesting by providing additional suitable habitat for nesting as proposed in the Mitigation Plan.

4.6 ESSENTIAL FISH HABITAT

Impacts to seagrasses, estuarine sand substrate and estuarine water column and Federally managed species are addressed in the EFH analysis in **Appendix C**, attached to letter dated August 1, 2000. It has been determined that EFH impacts would occur in the proposed turning basin area. Letters addressing EFH can be found in chronological order in **Appendix C**. Final EFH recommendations from NMFS can be found in **Appendix C**, letter dated January 11, 2001.

4.7 HISTORIC PROPERTIES

The proposed project would not impact Historic Properties.

4.8 AESTHETICS

As stated in paragraph 3.12, the aesthetic resources at Manatee Harbor are limited. The proposed work would not adversely affect aesthetic resources at the port facility. Aesthetic resources in the general area of Tampa Bay would be temporarily impacted by the presence of the dredge and other construction equipment.

4.9 RECREATION

There would be a temporary adverse affect on recreational fishing in the immediate project area due to construction activities and turbidity. Long-term adverse effects are not expected from this project.

4.10 COASTAL BARRIER RESOURCES

The project, Manatee Harbor, is not part of the Coastal Barrier Resources System.

4.11 WATER QUALITY

Water quality conditions would be degraded during dredging operations. The work would result in elevated turbidity and suspended solids at the dredge site and discharge site from the upland disposal area. Turbidity would be controlled during dredging by using floating turbidity screens between dredging operations and sensitive resources not to be disturbed (Gee & Jenson, Inc.,1999). Conditions within the dredge and disposal sites should return to normal shortly after the work

is completed. Long-term quality impacts associated with the project would result from erosion or storm water runoff, if not properly managed. Work would be required to comply with conditions specified in a Water Quality Certificate, which is issued by the State of Florida.

4.12 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

The preliminary assessment indicated that no hazardous, toxic, radioactive (HTRW), or other harmful substances are impacting the project area. However, if contaminants are found during project construction, the site must be remedied.

Contamination chemicals if not detected during the site assessment, may be disturbed or released by the project. Past experience has shown that the highly permeable ground substrate of the area results in rapid dilution of the residual contaminants.

4.13 AIR QUALITY

The short-term impact from emissions by construction equipment associated with the project would not significantly impact air quality.

4.14 NOISE

With the implementation of the proposed action there would be a temporary increase in the noise level during construction. Construction equipment would be properly maintained to minimize the effects of noise. There would be no noise-related impacts associated with the no action alternative.

4.15 NAVIGATION

Completion of the project would have a favorable impact on navigation. The proposed project would offer better access and safer navigation for vessels utilizing Manatee Harbor regardless of the tides.

The no action alternative will not improve navigation for port users. Port users will continue to be restricted by tides.

4.16 CUMULATIVE IMPACTS

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR 1508.7). At this time, there is an ongoing study to extend the south channel at Port Manatee. The channel extension would be located south of Berth 11 and allow construction and operation of a new berthing facility. Additionally, the authorized project provides for Federal maintenance of an existing entrance channel and turning basin. Maintenance of the channel is authorized to a depth of -40 feet and a width of 400 feet at the bottom. The entrance channel extends approximately 15,850 feet in length from the turning

basin to its intersection with the Tampa Harbor Channel. The existing turning basin is currently maintained to 40 feet in depth and about 700 feet in diameter.

4.17 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.17.1 IRREVERSIBLE

An irreversible commitment of resources is one in which the ability to use and/or enjoy the resource is lost forever. Energy and fuel used during construction would be an irreversible commitment of resources.

4.17.2 IRRETRIEVABLE

An irretrievable commitment of resources is one in which, due to decisions to manage the resource for another purpose, opportunities to use or enjoy the resource as they presently exist are lost for a period of time. Benthic organisms within the dredged area that would be eliminated during construction would be irretrievably lost for a period of time. However, the high rate of repopulating expected from these organisms reduces the significance of loss.

4.18 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Temporary loss of benthic organisms, permanent loss of partially vegetated shallow bay bottom would occur. Loss of the vegetated shallow bay bottom would be mitigated. Seagrass would be transplanted where impact would occur. The mitigation plan is discussed in Section 2.3. Probable increases in traffic due to port expansion would result in moderate increases in the overall noise level.

4.19 LOCAL SHORT-TERM USES AND MAINTENANCE/ENHANCEMENT OF LONG-TERM PRODUCTIVITY

It is recognized that maintenance dredging of Port Manatee channel is a continual effort. No acceptable and permanent one-time fix has been identified. Periodic maintenance dredging is an ongoing effort. Dredging efforts have a temporary and short-term impact on the biological resources. Although the project area would be environmentally stressed during dredging operations, all systems are expected to return to original balances shortly after the work is completed.

4.20 INDIRECT EFFECTS

Dredging can impact surrounding seagrass beds by clouding water, inhibiting light penetration to seagrasses

4.21 ENVIRONMENTAL COMMITMENTS

The U.S. Army Corps of Engineers and contractors commit to avoiding, minimizing or mitigating for adverse effects during construction activities by including the following commitments in the contract specifications:

4.21.1 Protection of Fish and Wildlife Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of fish and wildlife. Species that require specific attention along with measures for their protection shall be listed in the Contractor's Environmental Protection Plan prior to the beginning of construction operation.

4.21.2 Endangered Species Protection

1. The Contractor shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees.

2. All construction personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Sanctuary Act of 1978. The Contractor may be held responsible for any manatee harmed, harassed, or killed as a result of construction activities.

3. Siltation barriers shall be installed and shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be monitored regularly to avoid manatee entrapment. Barriers shall not block manatee entry to or exit from essential habitat.

4. All vessels associated with the project shall operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than four feet clearance from the bottom and that vessels shall follow routes of deep water whenever possible.

5. If a manatee is sighted within 100 yards of the project area, all appropriate precautions shall be implemented by the Contractor to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. If a manatee is closer than 50 feet to moving equipment or the project area, the equipment shall be shut down and all construction activities shall cease. Construction activities shall not resume until the manatee has departed the project area.

6. Any collision with and/or injury to a manatee shall be reported immediately to the "Manatee Hotline" at 1-800-DIAL-FMP (1-800-342-5367). Collision and or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) in South Florida.

7. Temporary signs concerning manatees shall be posted prior to and during construction/dredging activities. All signs are to be removed by the Contractor upon completion of the project.

8. If nighttime construction occurs, lights must be in place that illuminates a 100-foot radius around the construction site.

9. If blasting is necessary, a blast plan must be developed and forwarded to the U.S. Fish and wildlife Service for approval. Consultation will be re-initiated with USFWS.

4.21.3 Seagrasses

1. The Florida Department of Environmental Protection (FDEP) Conceptual Environmental Resource Permit (ERP) for the seagrass mitigation contains Specific Conditions that will ensure that the mitigation compensates for the impacts associated with this project. Additionally, all specific conditions contained in the ERP are made part of the Department of Army Permit.

2. Following approval of the final seagrass mitigation plan by FDEP (in the Individual ERP to authorize the work), all seagrass mitigation shall be completed and deemed successful by the FDEP, the Corps of Engineers, and the NMFS prior to commencement of the expansion activities.

3. Dredging and filling for the turning basin will not begin until the seagrasses within the impact site are transplanted and become successfully established. Successful reestablishment of the seagrasses from the impact site will be defined as 100% survival of the existing stock, an equivalent amount of donor stock, or a combination thereof, plus a 5% increase in coverage due to natural recruitment/growth. This determination will be made by comparing the June 2000 seagrass survey to a new survey (conducted at least one year after planting) using the same methodology, as defined in the mitigation plan.

4. In the event the seagrass mitigation effort is deemed unsuccessful, thus not authorizing the Manatee County Port Authority (MCPA) to expand the port as proposed, the MCPA shall restore the seagrass habitat in the impact areas in accordance with NMFS seagrass restoration guidance available at that time.

5. The National Marine Fisheries Service shall be provided an opportunity to review the Mitigation Success Reports, along with the State and the Corps, and concur with their findings.

4.21.4 Turbidity (Water Quality)

1. The water quality (turbidity) will be monitored twice daily at least 4 hours apart during all dredging and disposal operations.

2. If turbidity values exceed State water quality standards (29 NTU's above background, or exceeds background in adjacent Outstanding Florida Waters (Cockroach Bay Aquatic Preserve and Terra Ceia Aquatic Preserve), construction activities shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels.

4.21.5 Protection of Migratory and/or Listed Bird Species

1. Construction activities will be under surveillance, management, and control to prevent impacts to migratory birds and their nests in accordance with the U.S. Army Corps of Engineers, Jacksonville District's Migratory Bird Protection Policy. Additionally, migratory birds are protected by the Florida Endangered and Threatened Species Act of 1977, Title XXVIII, Chapter 372.072, and the U.S. Fish and Wildlife Service pursuant to the Migratory Bird Treaty Act of 1918 and the Endangered and Threatened Species Act of 1982, as amended.

2. Monitoring of the construction area will begin 1 April through 31 August, if construction activities occur during that period. Daily monitoring will be conducted.

3. Any nesting activity will be reported immediately to the Corps. Guidelines set forth in the Migratory Bird Protection Policy will be implemented should nesting occur within the construction area.

4.22 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

4.22.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Environmental information on the project has been compiled and this Environmental Assessment has been prepared. The project is in compliance with the National Environmental Policy Act.

4.22.2 ENDANGERED SPECIES ACT OF 1973

Consultation was initiated with NMFS on November 15, 1999 and completed on December 22, 1999 (see Appendix D). Consultation was initiated with USFWS on November 22, 1999 and completed on September 5, 2000 (see Appendix D). This project was fully coordinated under the Endangered Species Act and is therefore, in full compliance with the Act.

4.22.3 FISH AND WILDLIFE COORDINATION ACT OF 1958

This project has been coordinated with the U.S. Fish and Wildlife Service (USFWS). It was determined by letter dated September 5, 2000 (see Appendix C) that an existing CAR dated November 1991 would adequately address the issues regarding the proposed Manatee Harbor dredging project. This project is in full compliance with the Act.

4.22.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966 (INTER ALIA)

(PL 89-665, the Archeology and Historic Preservation Act (PL 93-291), and executive order 11593)
Archival research, magnetometer survey, and consultation with the Florida State Historic Preservation Officer (SHPO), have been conducted in accordance with the National Historic Preservation Act, as amended; the Archeological and Historic Preservation Act, as amended and Executive Order 11593. SHPO consultation was initiated September 22, 1999. A remote sensing survey located six anomalies that were potential submerged cultural resources. In November 2001, diver evaluations were conducted on the six magnetic targets. The results of the investigations revealed a scatter of modern debris at the locations.

4.22.5 CLEAN WATER ACT OF 1972

The project is in compliance with this Act. The local sponsor has applied for Section 401 water quality certification through the Department of Environmental Protection. All State water quality standards would be met. A Section 404(b) evaluation is included in this report as Appendix A.

4.22.6 CLEAN AIR ACT OF 1972

No air quality permits would be required for this project. This project will be coordinated with U.S. Environmental Protection Agency (EPA) and is in compliance with Section 309 of the Act. This Draft EA was forwarded to EPA for their review.

4.22.7 COASTAL ZONE MANAGEMENT ACT OF 1972

A federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as Appendix B. State consistency review was performed during the coordination of the draft EA. (Refer to Section 6.4)

4.22.8 FARMLAND PROTECTION POLICY ACT OF 1981

No prime or unique farmland would be impacted by implementation of this project. This act is not applicable.

4.22.9 WILD AND SCENIC RIVER ACT OF 1968

No designated Wild and Scenic river reaches would be affected by project related activities. This act is not applicable.

4.22.10 MARINE MAMMAL PROTECTION ACT OF 1972

Incorporation of the safe guards used to protect threatened or endangered species during dredging and disposal operations would also protect any marine mammals in the area, therefore, this project is in compliance with the Act.

4.22.11 ESTUARY PROTECTION ACT OF 1968

Tampa Bay is part of the National Estuary Program established by Section 320 of the Clean Water Act. This project has been coordinated with the U.S. Fish and Wildlife Service and assuming appropriate mitigation is achieved, it is in compliance with the Estuary Protection Act of 1968.

4.22.12 FEDERAL WATER PROJECT RECREATION ACT

There is no recreational development proposed for this project. Therefore, this Act does not apply.

4.22.13 FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976

The project has been coordinated with the National Marine Fisheries Service (NMFS) and is in compliance with the act.

4.22.14 SUBMERGED LANDS ACT OF 1953

The project would occur on submerged lands of the State of Florida. The project has been coordinated with the State and is in compliance with the act.

4.22.15 COASTAL BARRIER RESOURCES ACT AND COASTAL BARRIER IMPROVEMENT ACT OF 1990

There are no designated coastal barrier resources in the project area that would be affected by this project. These acts are not applicable.

4.22.16 RIVERS AND HARBORS ACT OF 1899

The proposed work would not obstruct navigable waters of the United States. The proposed action has been subject to the public notice, public hearing, and other evaluations normally conducted for activities subject to the act. The project is in full compliance.

4.22.17 ANADROMOUS FISH CONSERVATION ACT

Anadromous fish species would not be affected. The project has been coordinated with the National Marine Fisheries Service and is in compliance with the act.

4.22.18 MIGRATORY BIRD TREATY ACT AND MIGRATORY BIRD CONSERVATION ACT

The project has been coordinated with the U.S. Fish and Wildlife Service and is in compliance with these acts.

4.22.19 MARINE PROTECTION, RESEARCH AND SANCTUARIES ACT

The Marine Protection, Research and Sanctuaries Act does not apply to this project. The disposal activities addressed in this EA have been evaluated under Section 404 of the Clean Water Act.

4.22.20 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

This act requires preparation of an Essential Fish Habitat (EFH) Assessment and coordination with the National Marine Fisheries Service (NMFS). An independent EFH Assessment was coordinated with NMFS prior to distribution of this NEPA document. Based on analysis discussed in the EFH Assessment, it has been determined that EFH impacts would occur. Therefore, a proposed mitigation plan to offset these impacts has been developed. The EFH Assessment and correspondence can be found in chronological order in Appendix C. The project is in full compliance with this Act.

4.22.21 E.O. 11990, PROTECTION OF WETLANDS

The project is in full compliance with the goals of this Executive Order. Wetlands adversely affected by project activities would be mitigated.

4.22.22 E.O. 11988, FLOOD PLAIN MANAGEMENT

No activities associated with this project would take place in a floodplain, therefore, this project is in compliance with the goals of this Executive Order.

4.22.23 E.O. 12898, ENVIRONMENTAL JUSTICE

The proposed project would not result in adverse human health or environmental effects, nor would the activity impact the subsistence consumption of fish and wildlife. The project is in compliance with this Executive Order.

4.22.24 E.O. 13089, CORAL REEF PROTECTION

The proposed project would not result in adverse impacts to coral reef ecosystems. No coral reef habitats exist within or near the proposed project. This Act is not applicable.

5 LIST OF PREPARERS

5.1 PREPARERS

NAME	DISCIPLINE	ROLE
Yvonne Haberer	Biologist	Main Author
Tommy Birchett	Archeologist	Historic Properties
Robert Henderson	Engineer	Design Waterways/Engineering
Kenneth Dugger	Senior Biologist	Review

6 PUBLIC INVOLVEMENT

6.1 SCOPING AND DRAFT EA

The Draft EA and Preliminary Finding of No Significant Impact (FONSI) were made available to the public by Notice of Availability dated April 01, 2002.

6.2 AGENCY COORDINATION

The proposed project has been coordinated with the following agencies: U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Environmental Protection Agency, Florida State Clearinghouse, Florida Fish and Wildlife Conservation Commission, Florida Department of Environmental Protection, and Florida State Historic Preservation Officer (SHPO).

6.3 LIST OF RECIPIENTS

The Draft EA was circulated to Federal, State, local agencies, and interested groups for review and comment. A list of those that were sent copies can be found in Appendix C.

6.4 COMMENTS RECEIVED AND RESPONSE

Letters of comment/no comment on the Draft EA were received by the National Marine Fisheries Service (NMFS); Florida State Clearinghouse; Florida Fish and Wildlife Conservation Commission (FWC); Division of Historical Resources, State Historic Preservation Officer (SHPO); Southwest Florida Water Management District; Florida Department of Transportation. Verbal conversation records indicate "no comment" from FWS, Jacksonville, Florida, Field Office on June 20, 2002 and U.S. Environmental Protection Agency in Atlanta, Georgia on July 1, 2002. Correspondence dated May 30, 2002 from the State Clearinghouse states that the project at this stage is consistent with the Florida Coastal Management Program (FCMP). The Manatee County Port Authority has received a "Notice of Intent" to issue an environmental resource permit (ERP), dated April 12, 2002. Issuance of the ERP will constitute a "finding of consistency" with FCMP, as required by Section 307 of the Coastal Zone Management Act.

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